

FIG. 1

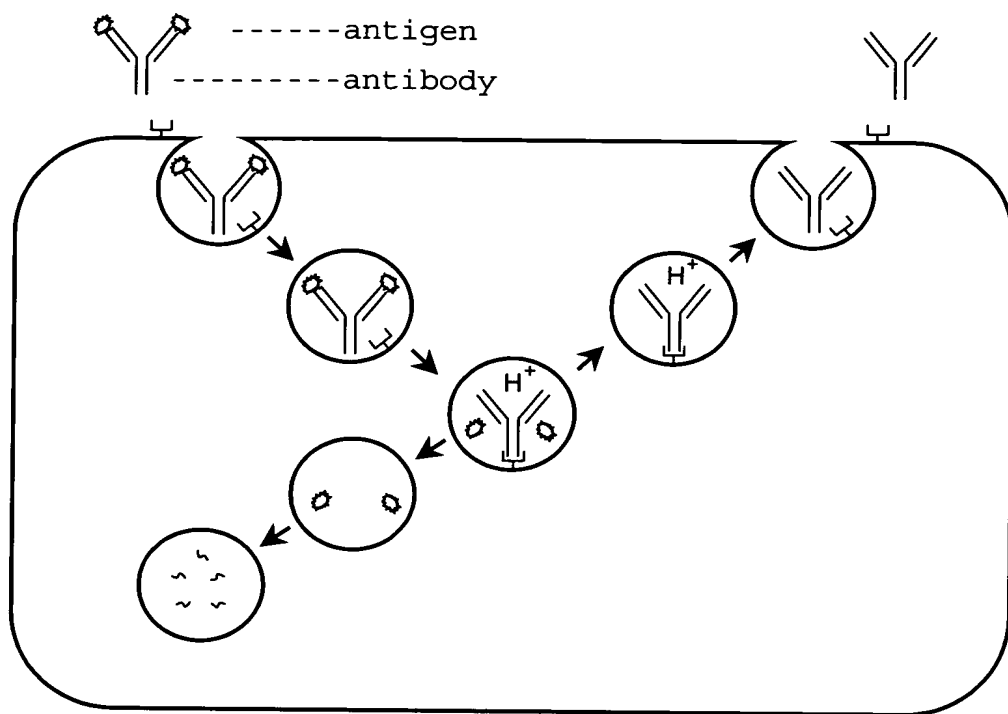


FIG. 2

FIG. 3A Amino Acid Sequences of OST577-IgG2M3 and OST577-IgG1

OST577 - VH	QVQLVESGGGVVQPGRSLRLSCAASGFTFSRYGMHWVRQAPGKGLEWVAVISYDGSNKKWYADSVKGRFTISRDNISKNTLFLQMHSLSRAADTGVVYFCAKDQLYFGSQSPGHYWGQGTLVTVSS
IgG2M3 - CH	ASTKGPVSFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVVDHKPSNTKVDKTVVERKCCVCEPCPCP APPAAPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTK GQPREPQVYTLPPSRREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPPMLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEALHNHYTQKSLSLSPSK
IgG1 - CH	ASTKGPVSFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKVEPKSCDKTHTCTPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEALHNHYTQKSLSLSPGK
OST577 - VL	SYVLTPPPSVSVAPGQTARITCGGDNI GSKSVNWFQQKPGQAPVLVYDDNERPSGISERFSGSNSGNTATLTISRVEAGDEADYYICQVWDSDDHVVFGGGTKLTVLG
LAMBDA2 - CL	QPKAAPSVTLFPPSSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTTPSKQSNKKYAASSYLSLTPEQWKSHRSYSQVTHEGSTVEKTVAPTECS

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

IgG2M3	ASTKGPSPVFFLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPPAVLQSSGLYSLSVVTVPSSNFGQTQYTCNVVDHKPSNTKVDKTV
T250A	-----
T250C	-----
T250D	-----
T250E	-----
T250F	-----
T250G	-----
T250H	-----
T250I	-----
T250K	-----
T250L	-----
T250M	-----
T250N	-----
T250P	-----
T250Q	-----
T250R	-----
T250S	-----
T250V	-----
T250W	-----
T250Y	-----
L314A	-----
L314C	-----
L314D	-----
L314E	-----
L314F	-----
L314G	-----
L314H	-----
L314I	-----
L314K	-----
L314M	-----
L314N	-----
L314P	-----
L314Q	-----
L314R	-----
L314S	-----
L314T	-----
L314V	-----
L314W	-----
L314Y	-----
M428A	-----
M428C	-----
M428D	-----
M428E	-----
M428F	-----
M428G	-----

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

M428H	-----
M428I	-----
M428K	-----
M428L	-----
M428N	-----
M428P	-----
M428Q	-----
M428R	-----
M428S	-----
M428T	-----
M428V	-----
M428W	-----
M428Y	-----
T250E/M428F	-----
T250Q/M428F	-----
T250Q/M428L	-----
IgG2M3	ERKCCVCEPCP
T250A	-----
T250C	-----
T250D	-----
T250E	-----
T250F	-----
T250G	-----
T250H	-----
T250I	-----
T250K	-----
T250L	-----
T250M	-----
T250N	-----
T250P	-----
T250Q	-----
T250R	-----
T250S	-----
T250V	-----
T250W	-----
T250Y	-----
L314A	-----
L314C	-----
L314D	-----
L314E	-----
L314F	-----
L314G	-----
L314H	-----
L314I	-----
L314K	-----

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

L314M	-----
L314N	-----
L314P	-----
L314Q	-----
L314R	-----
L314S	-----
L314T	-----
L314V	-----
L314W	-----
L314Y	-----
M428A	-----
M428C	-----
M428D	-----
M428E	-----
M428F	-----
M428G	-----
M428H	-----
M428I	-----
M428K	-----
M428L	-----
M428N	-----
M428P	-----
M428Q	-----
M428R	-----
M428S	-----
M428T	-----
M428V	-----
M428W	-----
M428Y	-----
T250E/M428F	-----
T250Q/M428F	-----
T250Q/M428L	-----
IgG2M3	APPAAAPSVLFPFPKPKDTLMI SRTPEVT CVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREHQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTK
T250A	-----A-----
T250C	-----C-----
T250D	-----D-----
T250E	-----E-----
T250F	-----F-----
T250G	-----G-----
T250H	-----H-----
T250I	-----I-----
T250K	-----K-----
T250L	-----L-----
T250M	-----M-----
T250N	-----N-----

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

T250P	P
T250Q	Q
T250R	R
T250S	S
T250V	V
T250W	W
T250Y	Y
L314A	A
L314C	C
L314D	D
L314E	E
L314F	F
L314G	G
L314H	H
L314I	I
L314K	K
L314M	M
L314N	N
L314P	P
L314Q	Q
L314R	R
L314S	S
L314T	T
L314V	V
L314W	W
L314Y	Y
M428A	
M428C	
M428D	
M428E	
M428F	
M428G	
M428H	
M428I	
M428K	
M428L	
M428N	
M428P	
M428Q	
M428R	
M428S	
M428T	
M428V	
M428W	
M428Y	

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

T250E/M428F	-----E-----
T250Q/M428F	-----Q-----
T250Q/M428L	-----Q-----
IgG2M3	GQPREQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPMLDSGSFFLYSKLTVDKSRWQQGNVFCSVWHEALHNHYTQKSLSLSPSK
T250A	-----
T250C	-----
T250D	-----
T250E	-----
T250F	-----
T250G	-----
T250H	-----
T250I	-----
T250K	-----
T250L	-----
T250M	-----
T250N	-----
T250P	-----
T250Q	-----
T250R	-----
T250S	-----
T250V	-----
T250W	-----
T250Y	-----
L314A	-----
L314C	-----
L314D	-----
L314E	-----
L314F	-----
L314G	-----
L314H	-----
L314I	-----
L314K	-----
L314M	-----
L314N	-----
L314P	-----
L314Q	-----
L314R	-----
L314S	-----
L314T	-----
L314V	-----
L314W	-----
L314Y	-----
M428A	-----A-----
M428C	-----C-----
M428D	-----D-----

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

M428E	-----E-----
M428F	-----F-----
M428G	-----G-----
M428H	-----H-----
M428I	-----I-----
M428K	-----K-----
M428L	-----L-----
M428N	-----N-----
M428P	-----P-----
M428Q	-----Q-----
M428R	-----R-----
M428S	-----S-----
M428T	-----T-----
M428V	-----V-----
M428W	-----W-----
M428Y	-----Y-----
T250E/M428F	-----F-----
T250Q/M428F	-----F-----
T250Q/M428L	-----L-----

FIG. 3C Amino Acid Sequences of OST577-IgG1 and Its Mutants

IgG1	ASTKGPVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVWTVPSSSLGTQTYICNNHKPSNTKVDKKV
T250D	-----
T250E	-----
T250Q	-----
M428F	-----
M428L	-----
T250E/M428F	-----
T250Q/M428L	-----
IgG1	EPKSCDKTHTCPPCP
T250D	-----
T250E	-----
T250Q	-----
M428F	-----
M428L	-----
T250E/M428F	-----
T250Q/M428L	-----
IgG1	APELLGGPSVFLPPPKQDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVSVLTVQLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK
T250D	-----D-----
T250E	-----E-----
T250Q	-----Q-----
M428F	-----
M428L	-----
T250E/M428F	-----E-----
T250Q/M428L	-----Q-----
IgG1	GQPREPQVYTLPPSRDELTKNOVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNNHYTKSLSLSLSPGK
T250D	-----
T250E	-----
T250Q	-----
M428F	-----F-----
M428L	-----L-----
T250E/M428F	-----F-----
T250Q/M428L	-----L-----

FIG. 3D Amino Acid Sequences of Hu1D10-IgG2M3 and Hu1D10-IgG1

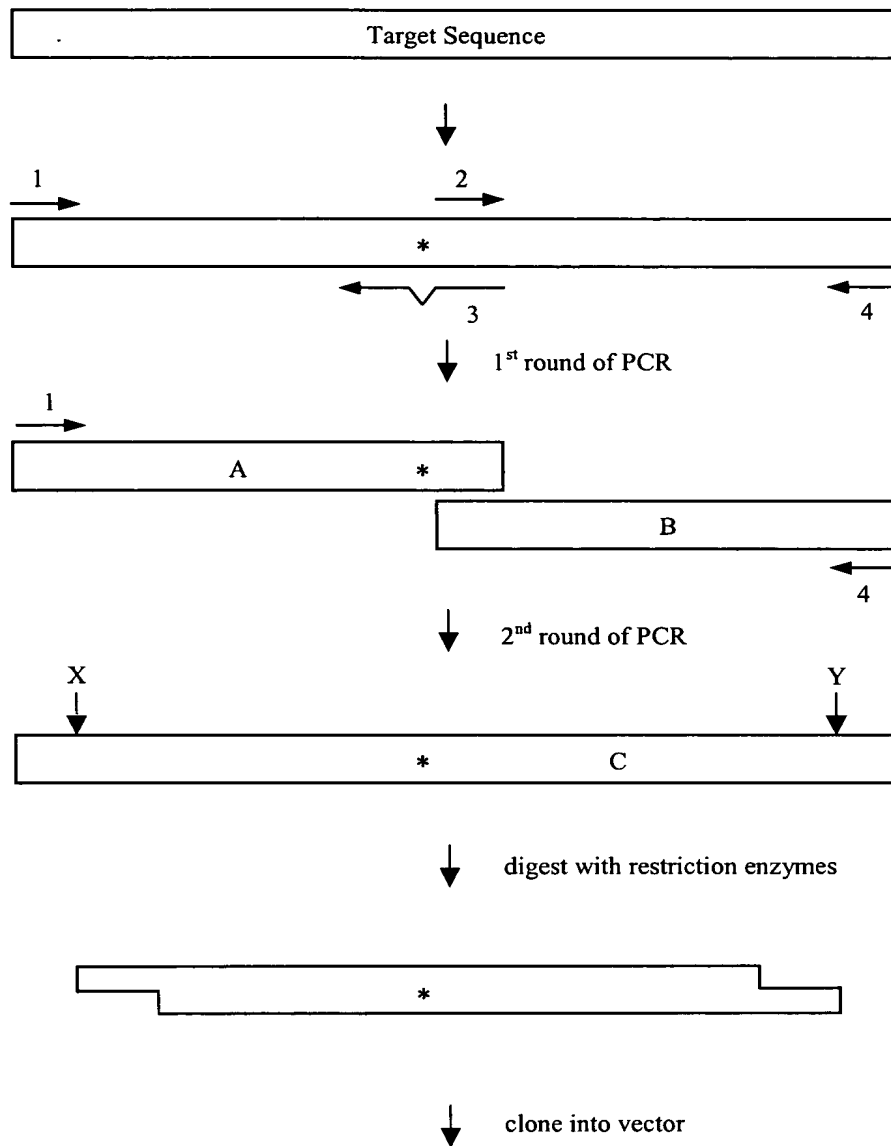
Hu1D10 - VH	QVQLQESGPGLVKPSSETLSLTCTVSGFSLTNYGVHWVRQSPGKGLEWIGVKWGGSTETNAAFISRLTISKDTSKNQVSLKLSLTAADTAVYYCARNDRYAMDYWGQGLTVTVSS
IgG2M3 - CH	ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSNFGTQTYYTCNVDHKPSNTKVDKTVVERKCCVECPPCP APPAAPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTK GQPREPQVYTLPPSRREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPMLDSDGSFFLYSKLTVDKSRWQOGNVFSCSVMEALHNHNYTQKSLSLSPSK
IgG1 - CH	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSNTKVDKVPKSCDKHTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQOGNVFSCSVMEALHNHNYTQKSLSLSPGK
Hu1D10 - VL	DIQMTQSPSSLSASVGDRVTITCRASENIYSYLAWYQQKPGKAPKLLVSNAKTLAEGVPSRPSGSGSGKQFTLTITSSLPQEDFATYYICQHHYVGNISYPFGQGTKLEIK
KAPPA - CL	RTVAAPSVFIFPPSDDEQLKSGTASVWCILLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

FIG. 3E Amino Acid Sequences of Hu1D10-IgG2M3 and Its Mutants

IgG2M3	ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKKVDKTV
M428L	-----
T250Q/M428L	-----
IgG2M3	ERKCCVECPPCP
M428L	-----
T250Q/M428L	-----
IgG2M3	APPAAAPSVELFPPKPKDTILMI SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVSVLTVVHQDMLNGKEYKCKVSNKGLPAPIEKTISKTK
M428L	-----
T250Q/M428L	-----Q-----
IgG2M3	GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPPMLDSDGSGFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPSK
M428L	-----L-----
T250Q/M428L	-----L-----

FIG. 3F Amino Acid Sequences of Hu1D10-IgG1 and Its Mutants

IgG1	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSNTKVDKKV	
M428L	-----	
T250Q/M428L	-----	
IgG1	EPKSCDKTHTCPPCP	
M428L	-----	
T250Q/M428L	-----	
IgG1	APELLGGPSVFLFPPPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVSVLTVQLHODWLNKGKEYCKKVSNAKALPAPIEKTISKAK	
M428L	-----	
	-----Q-----	
	-----	T250Q/M428L
IgG1	GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNNHYTKSLSPGK	
M428L	-----	
T250Q/M428L	-----L-----	



* = primer mismatches

FIG. 4

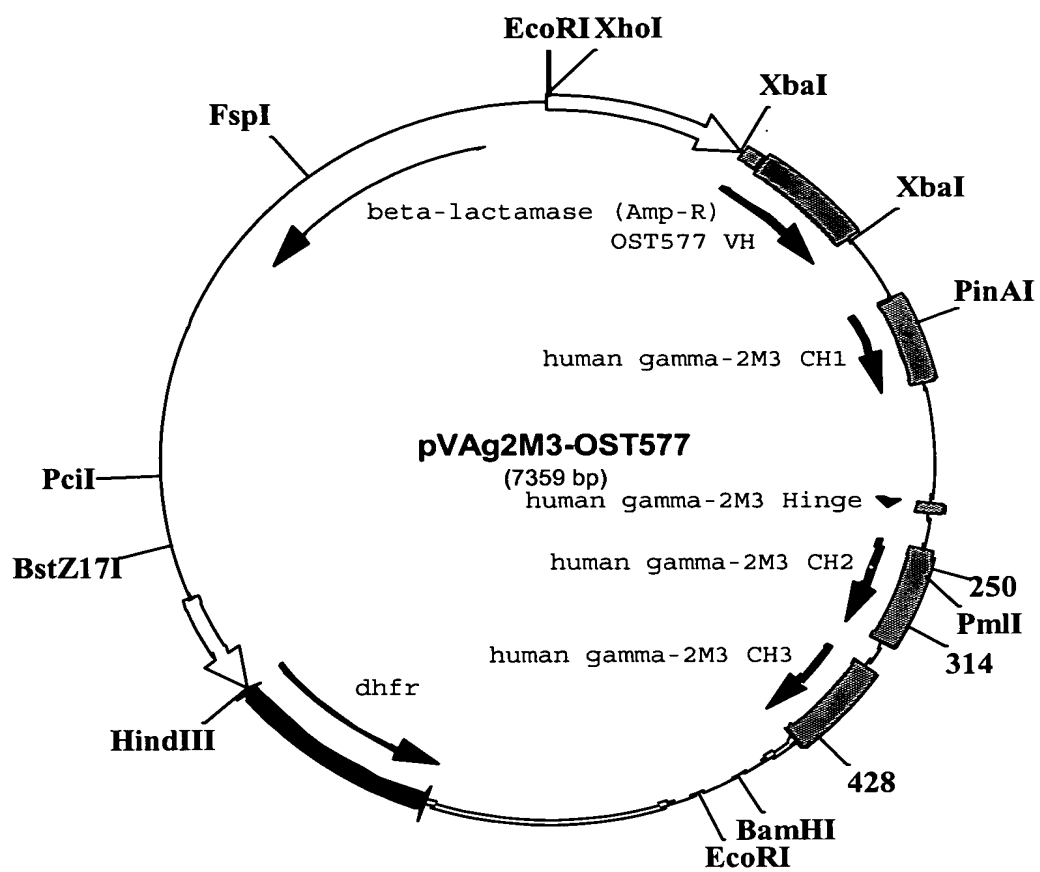


FIG. 5A

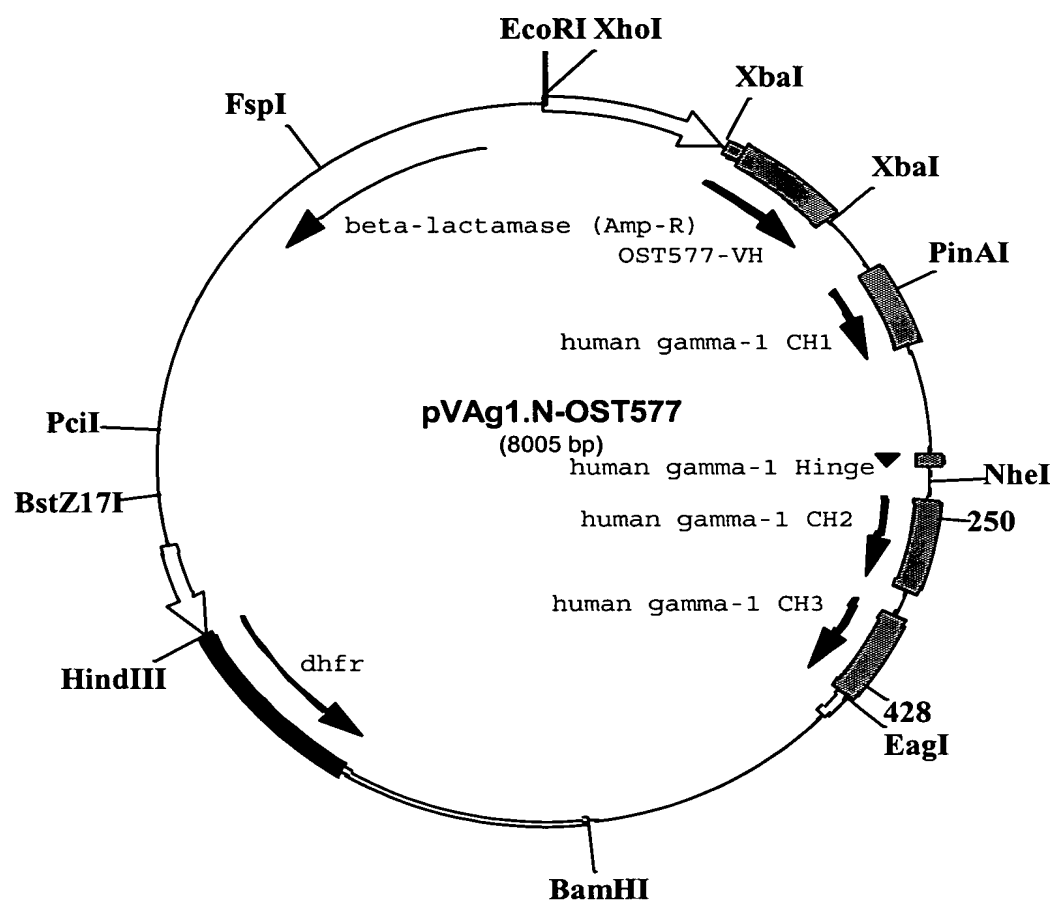


FIG. 5B

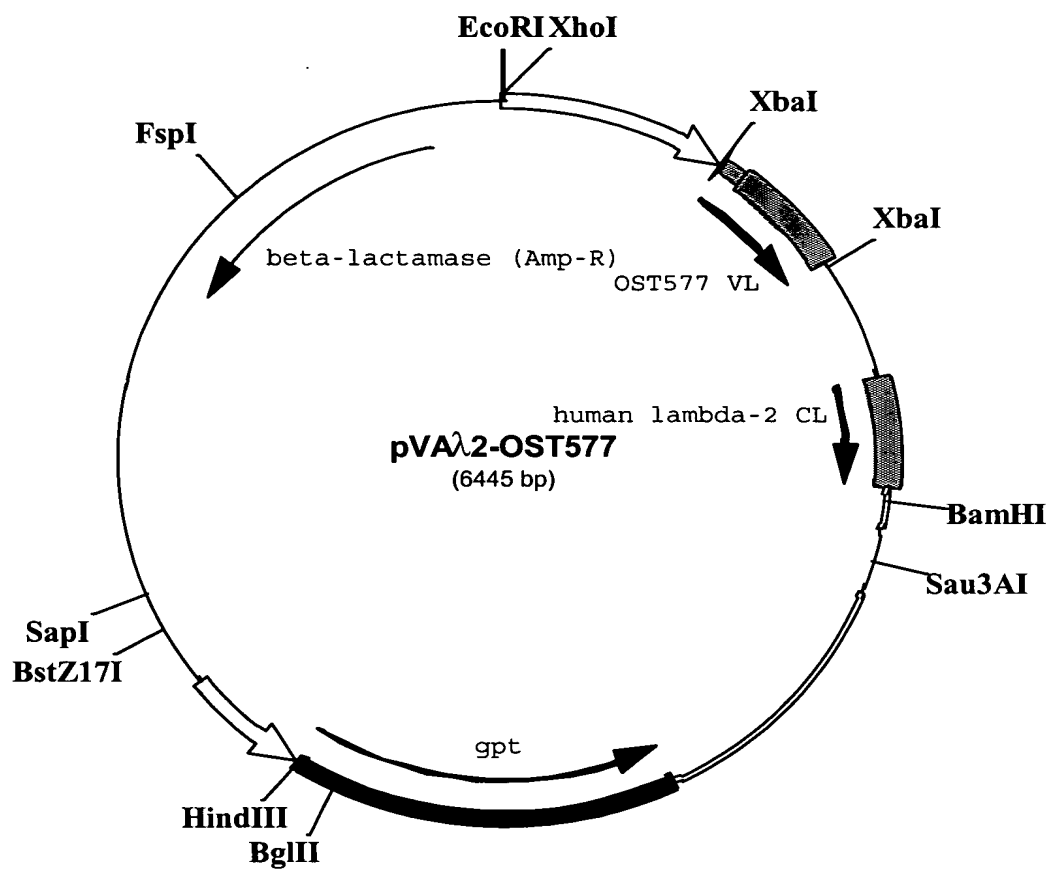


FIG. 6

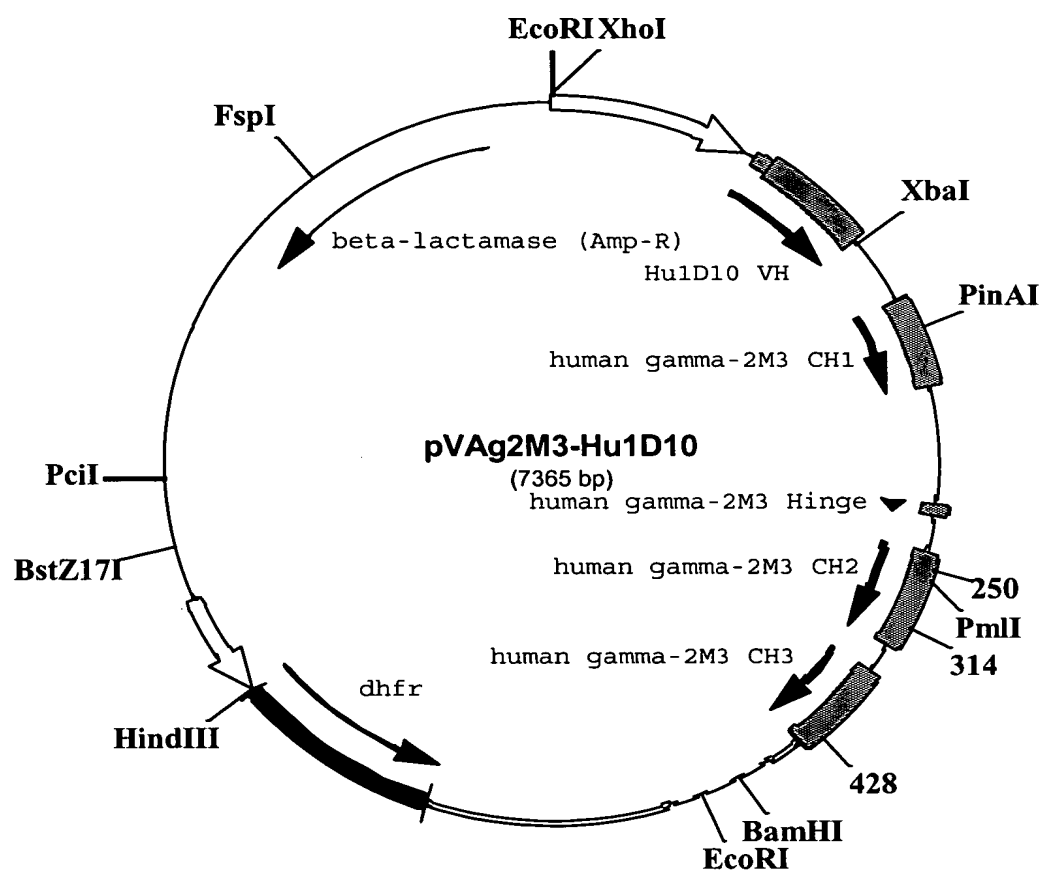


FIG. 7A

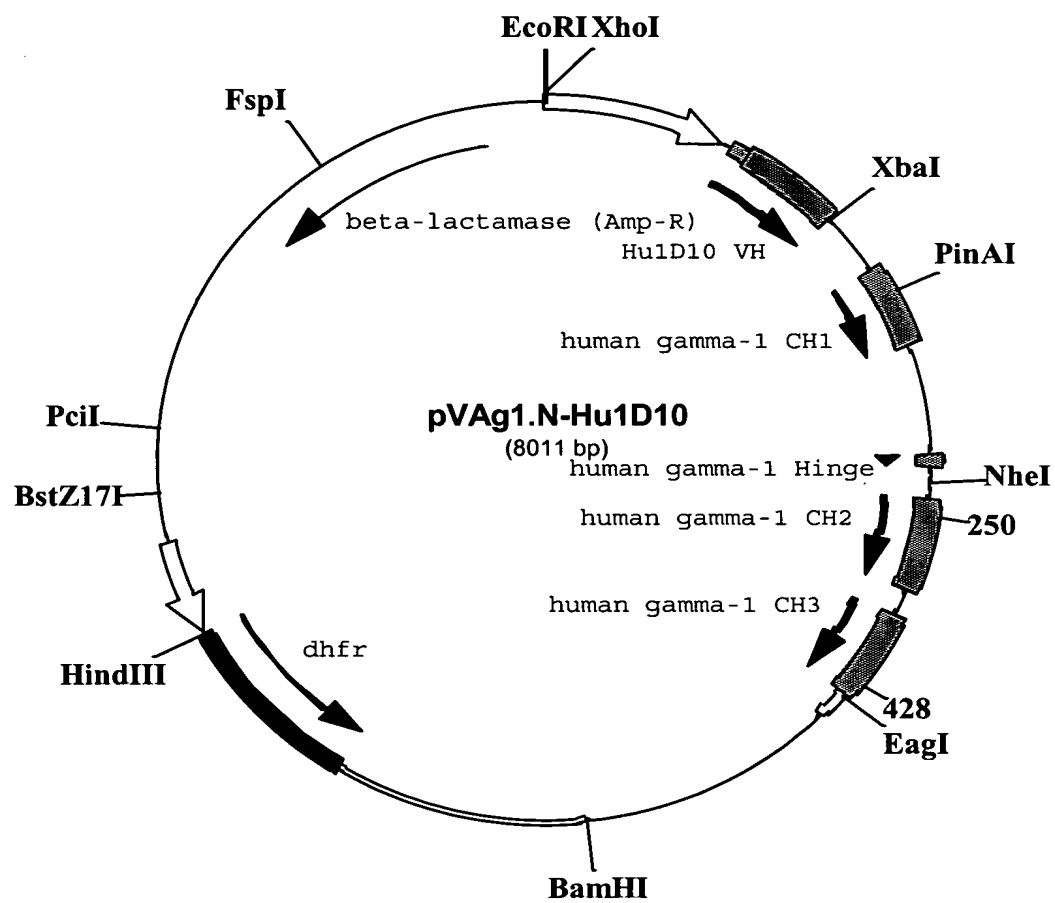


FIG. 7B

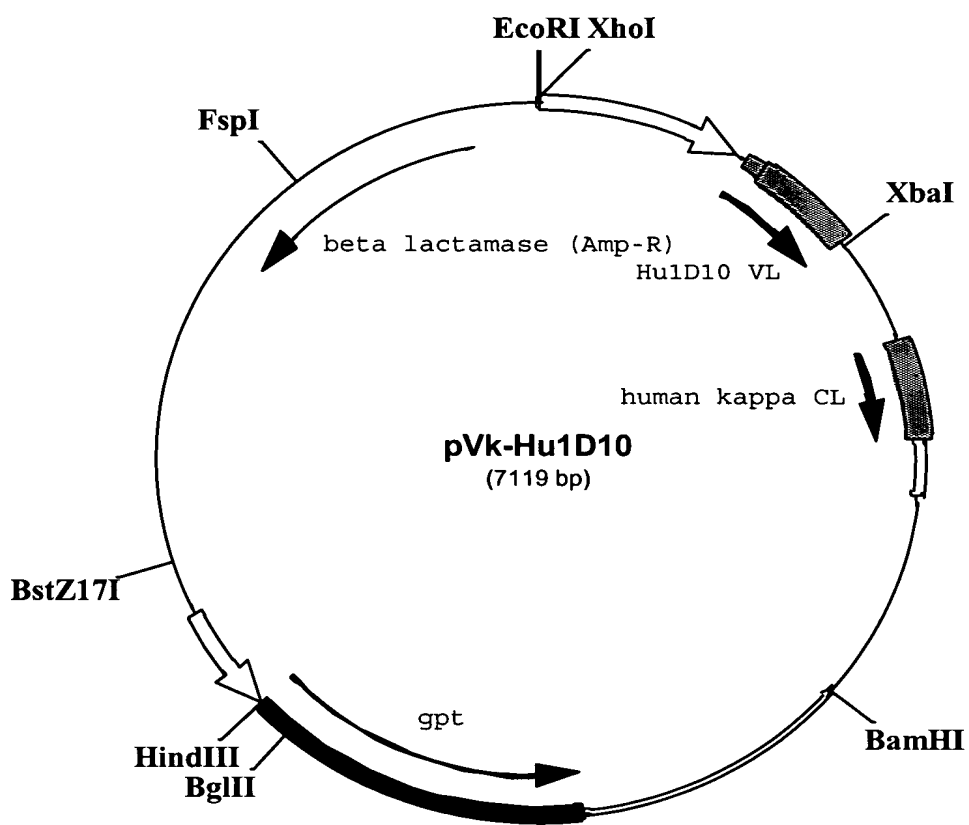


FIG. 8

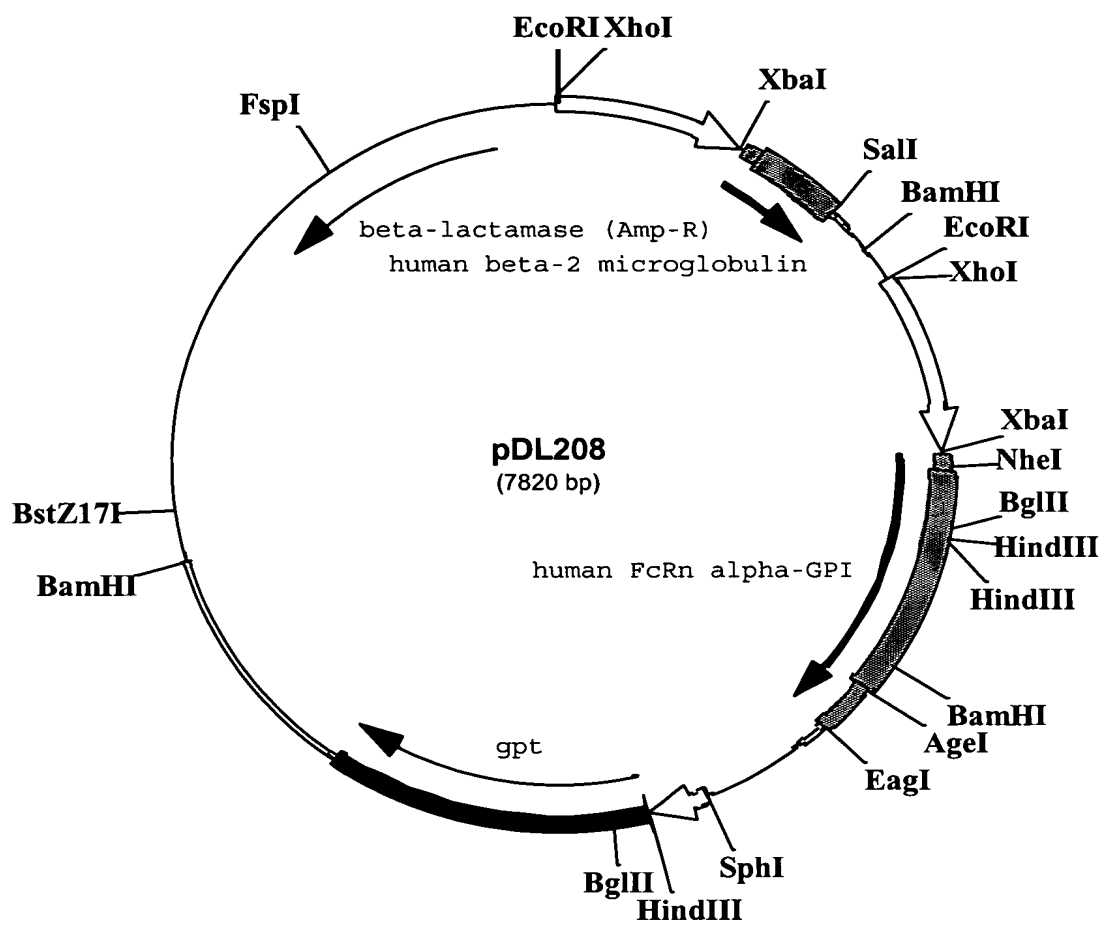


FIG. 9A

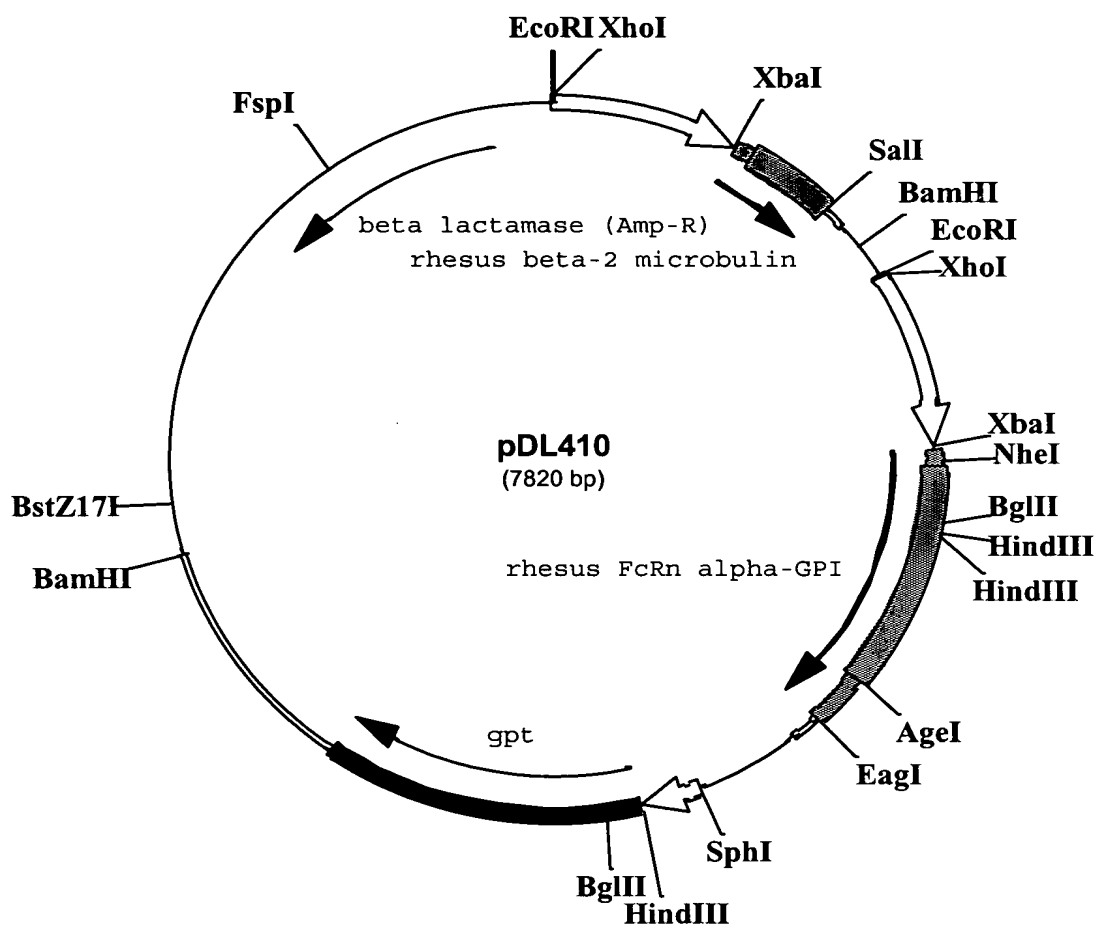
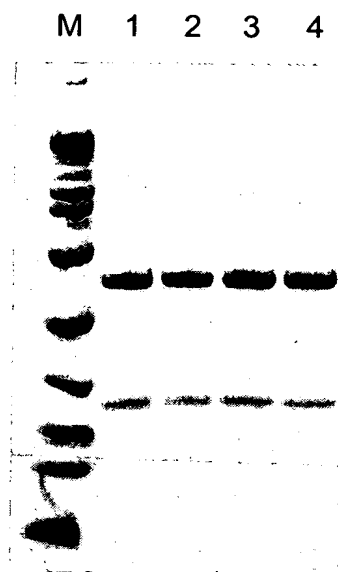


FIG. 9B



FIG. 10A



M Molecular weight standards

1 OST577-IgG1

2 T250E

3 M428F

4 T250E/M428F

FIG. 10B

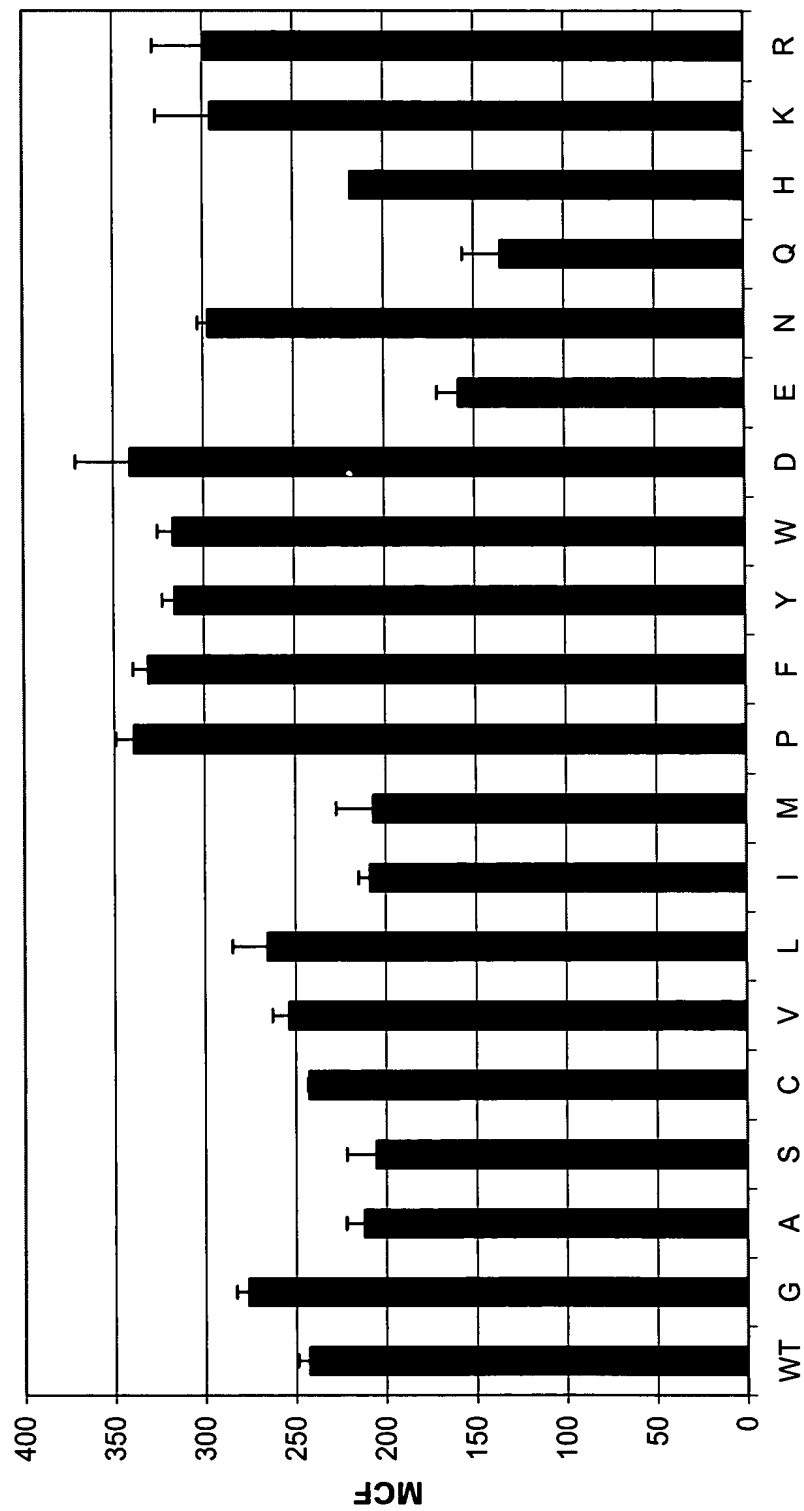


FIG. 11A

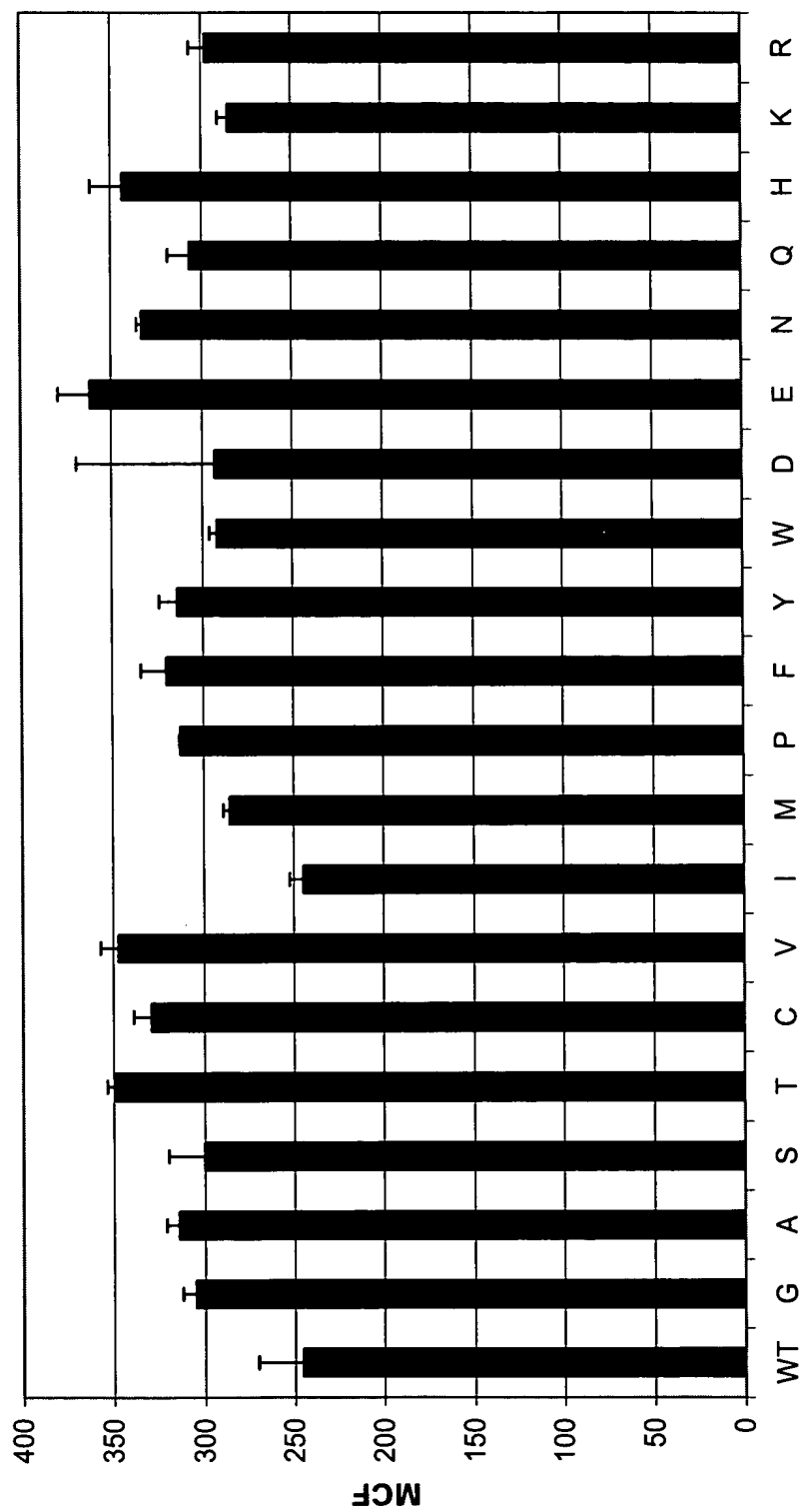


FIG. 11B

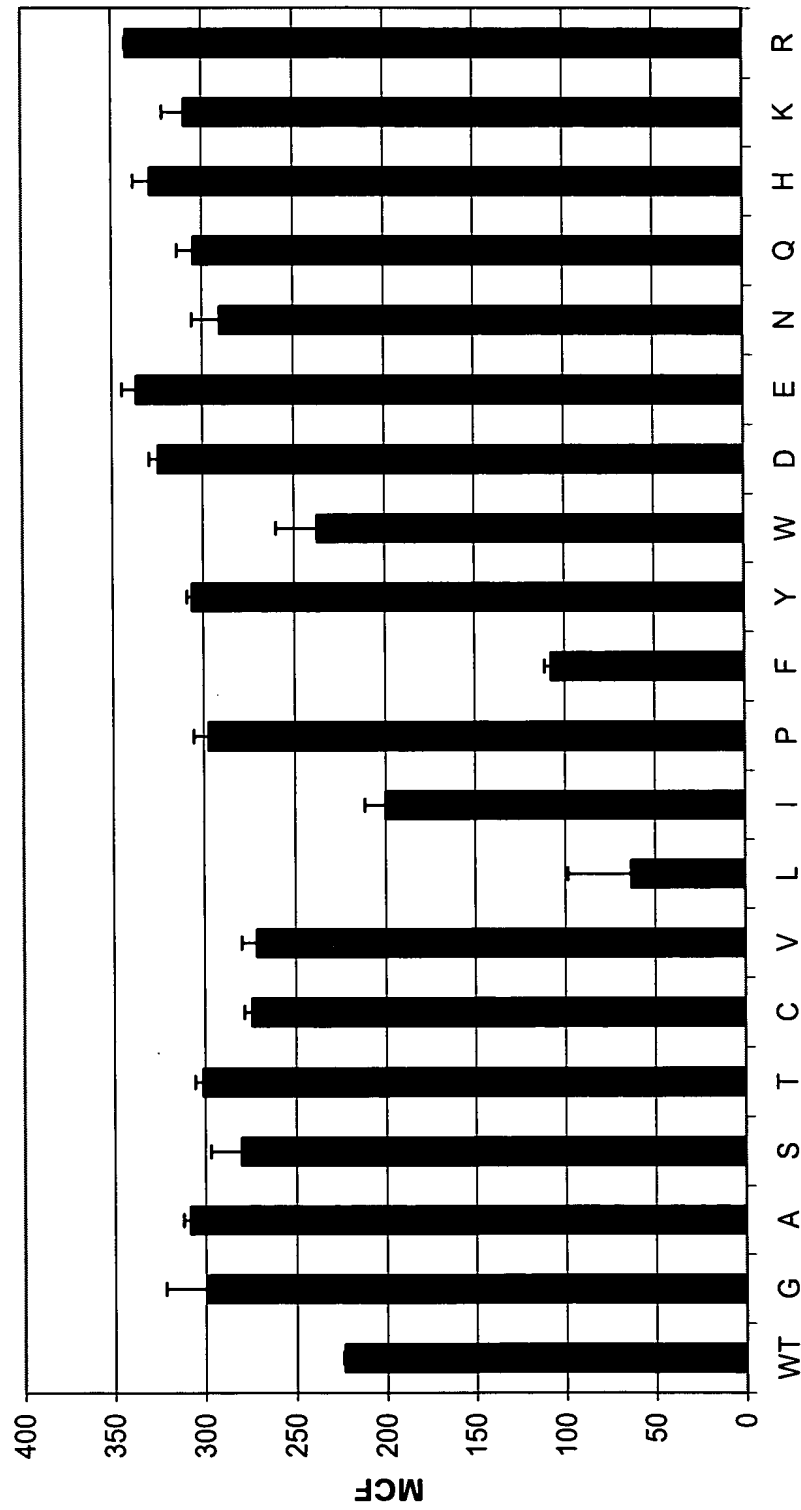


FIG. 11C

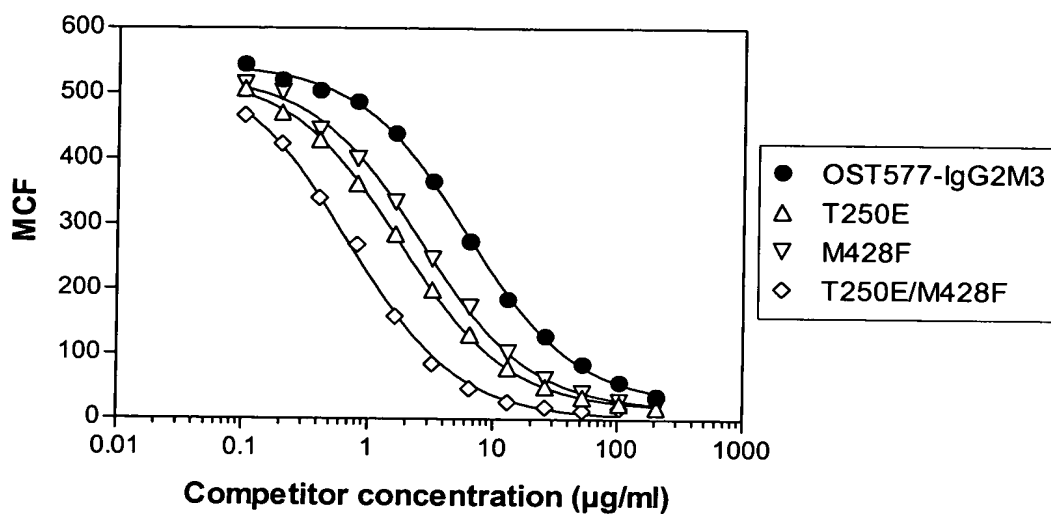


FIG. 12A

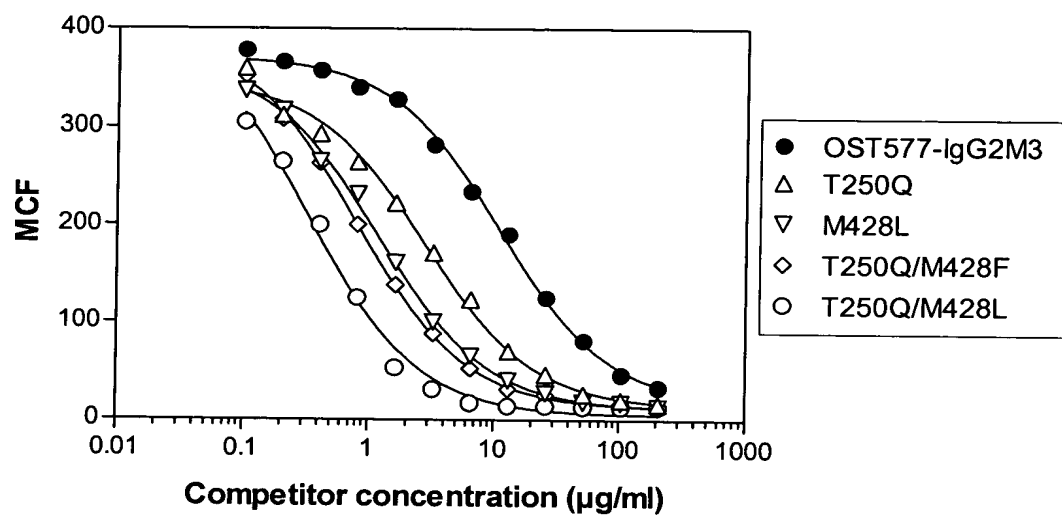


FIG. 12B

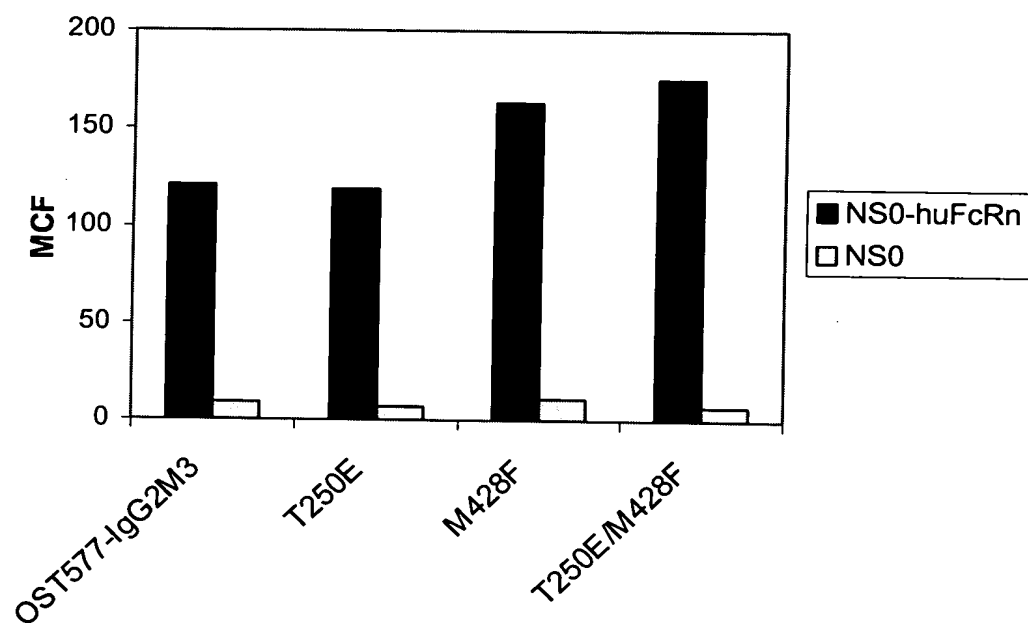


FIG. 13

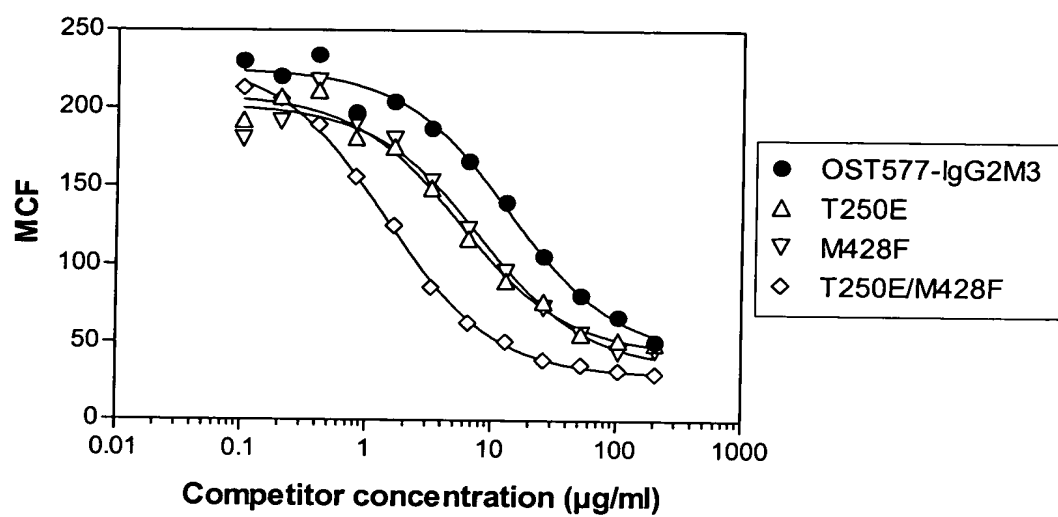


FIG. 14

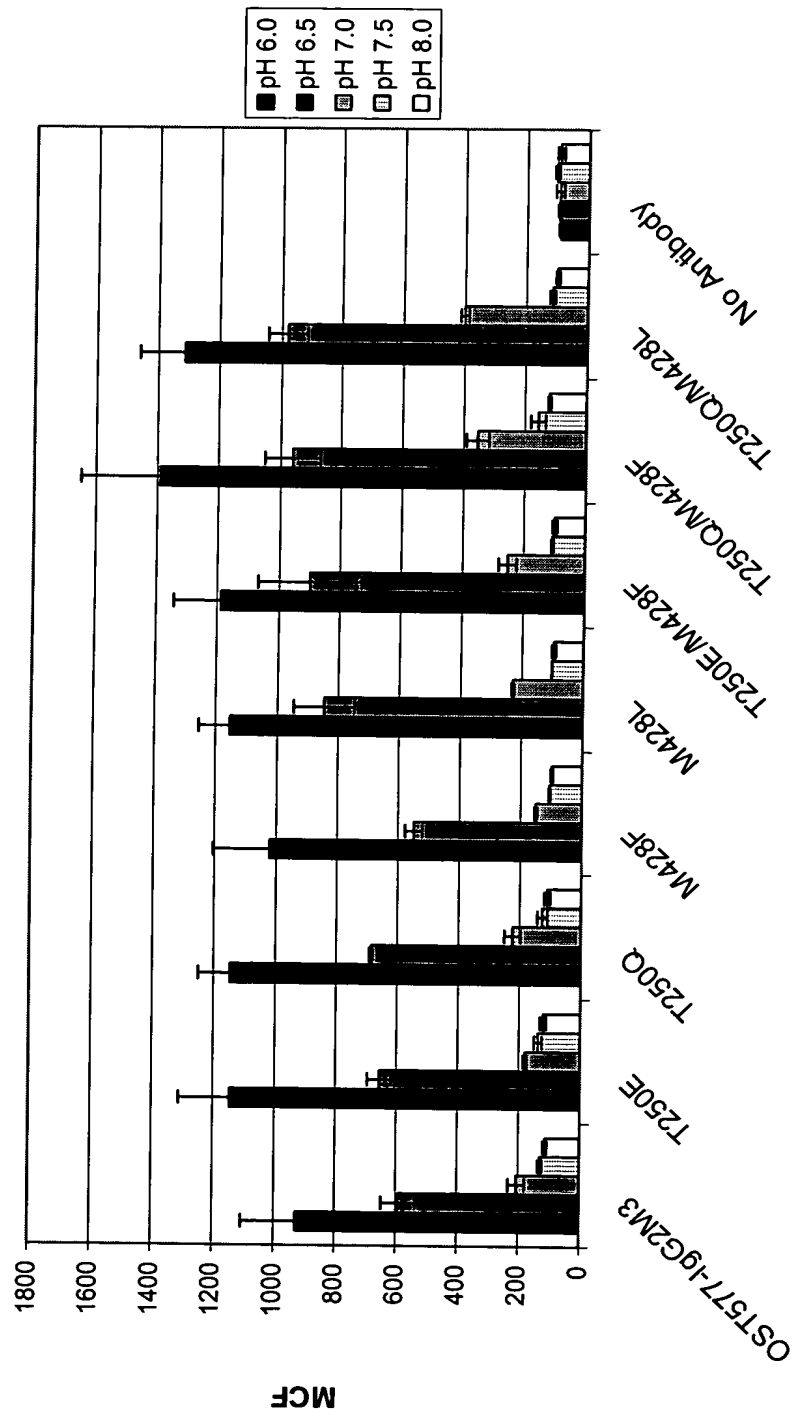


FIG. 15A

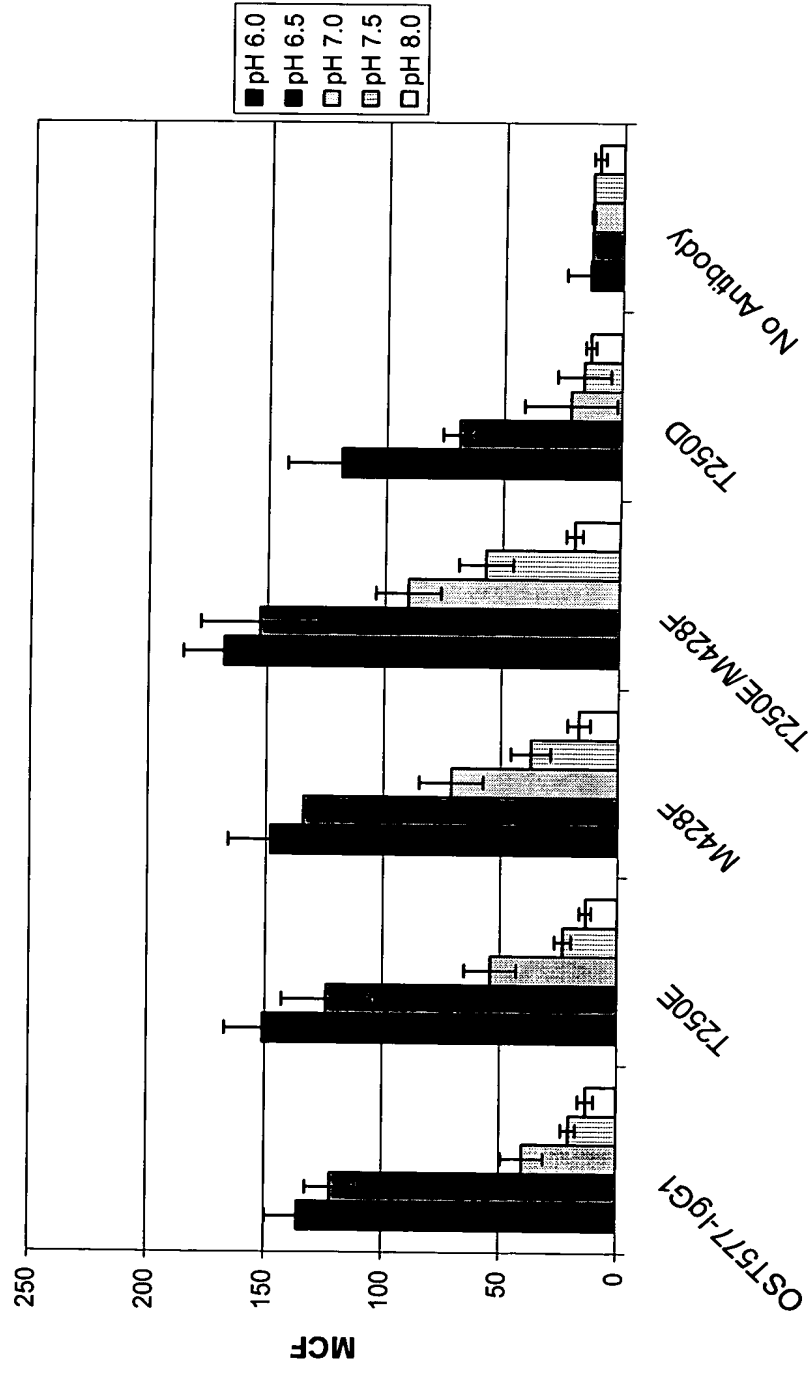


FIG. 15B

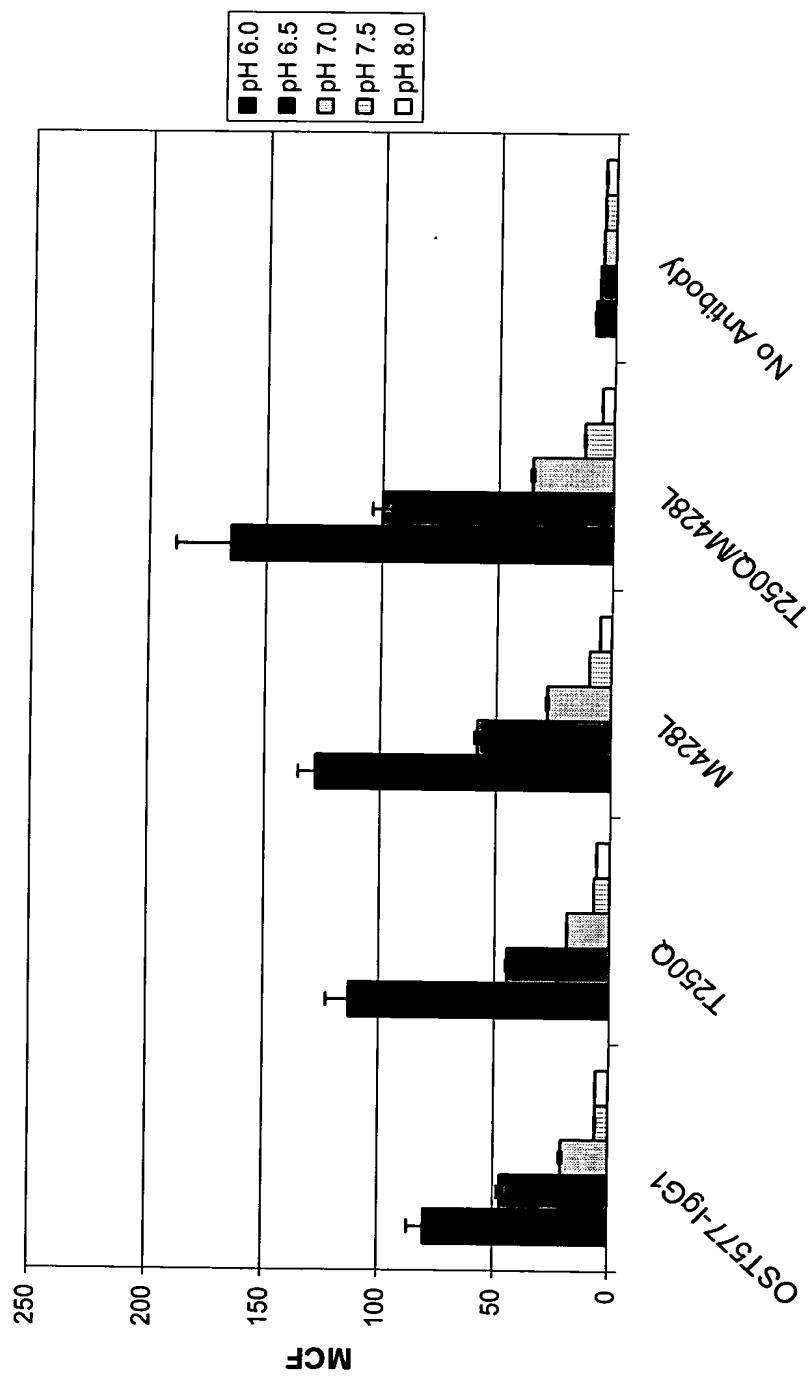


FIG. 15C

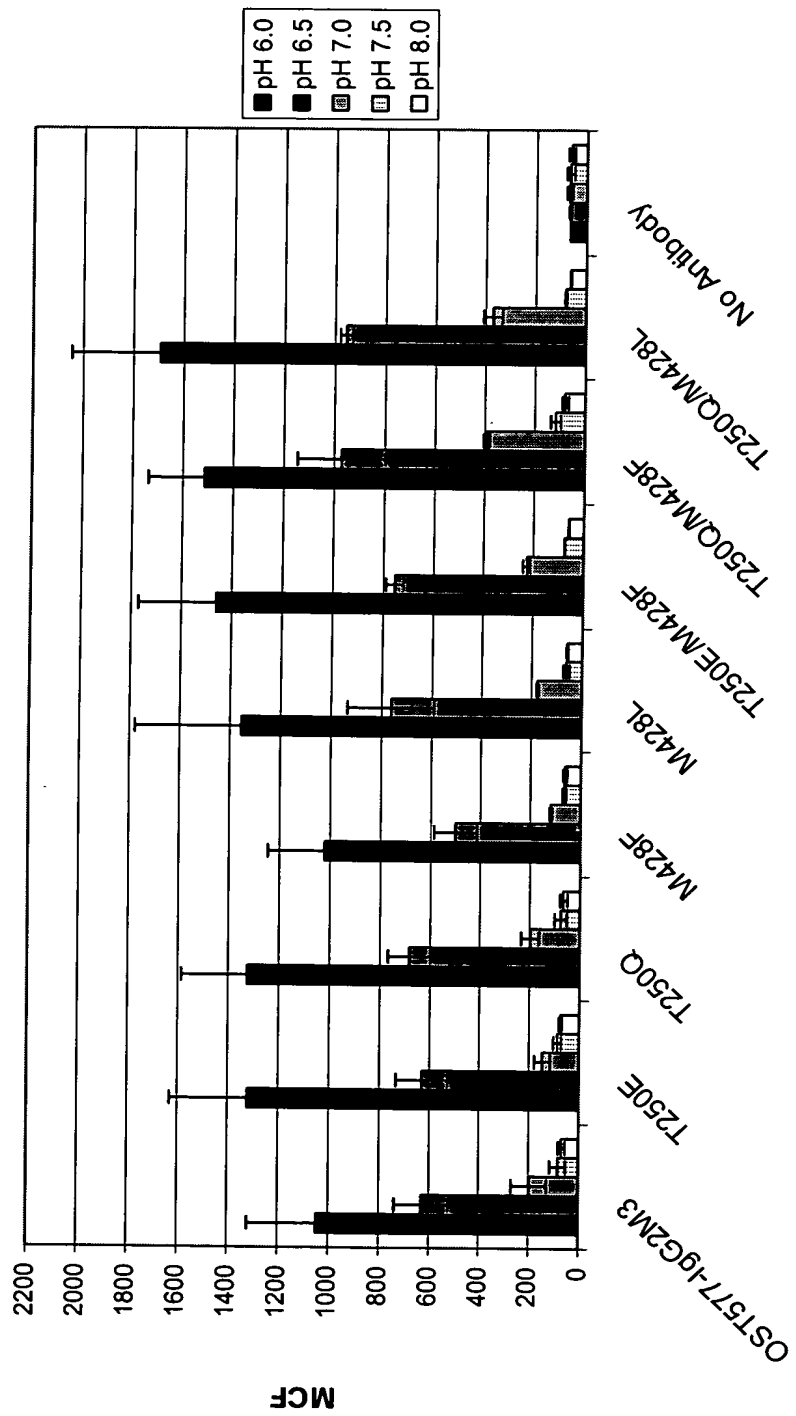


FIG. 15D

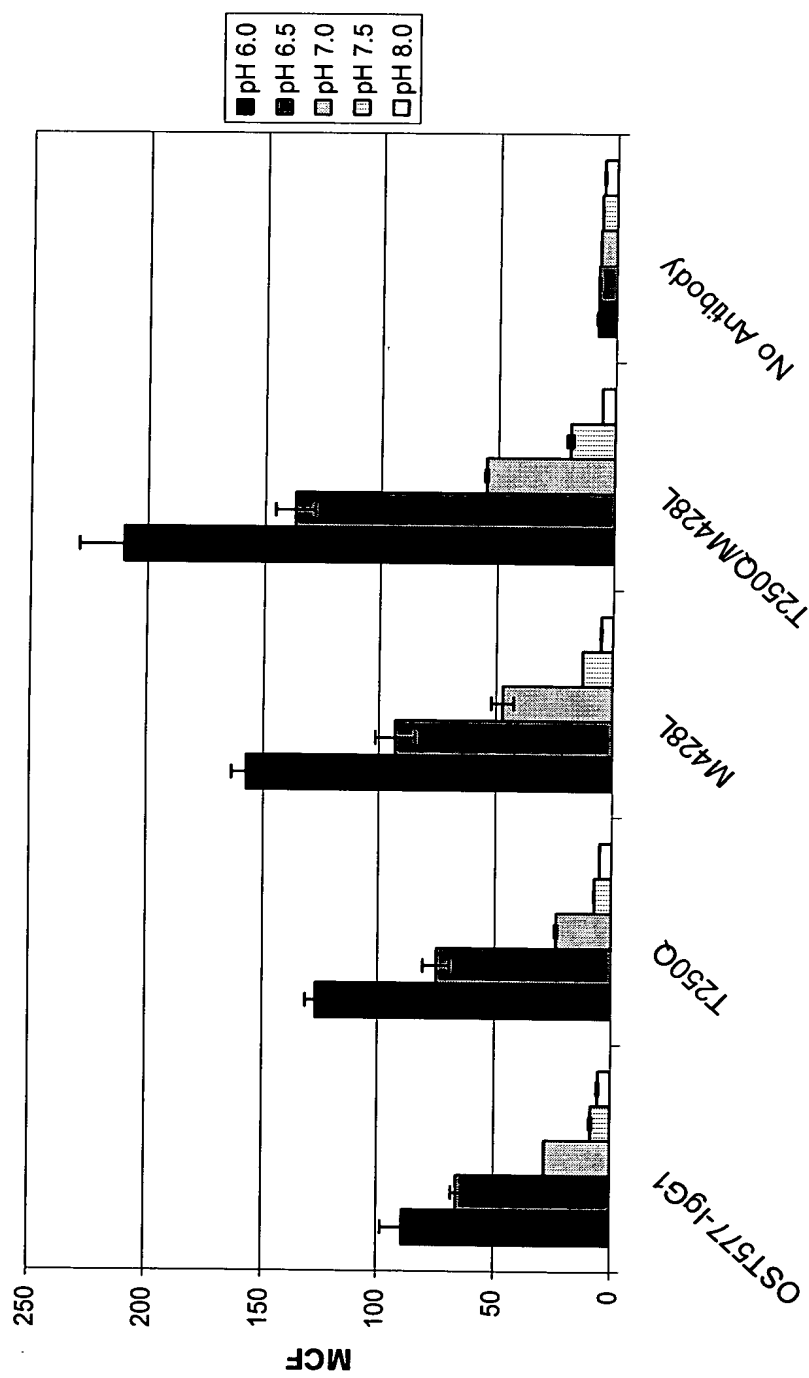


FIG. 15E

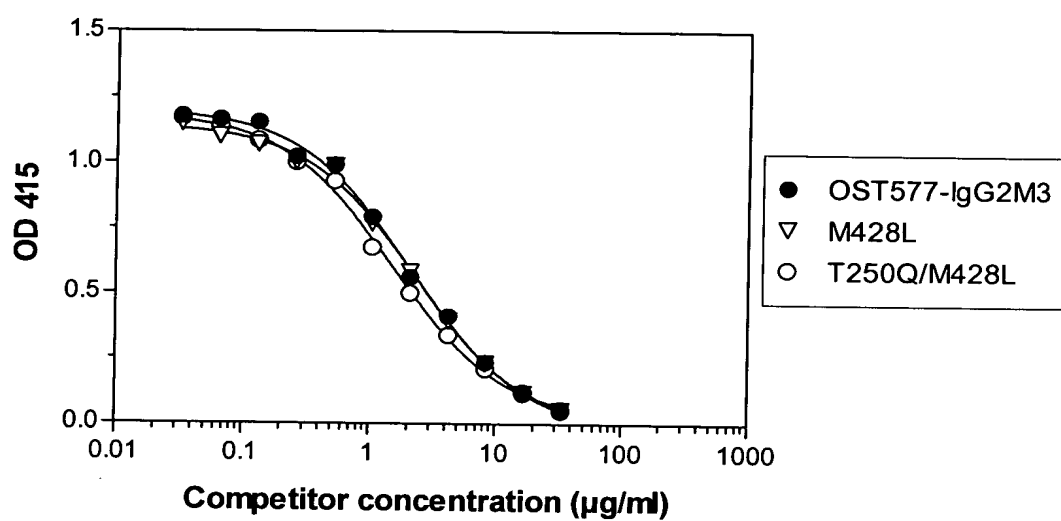


FIG. 16A

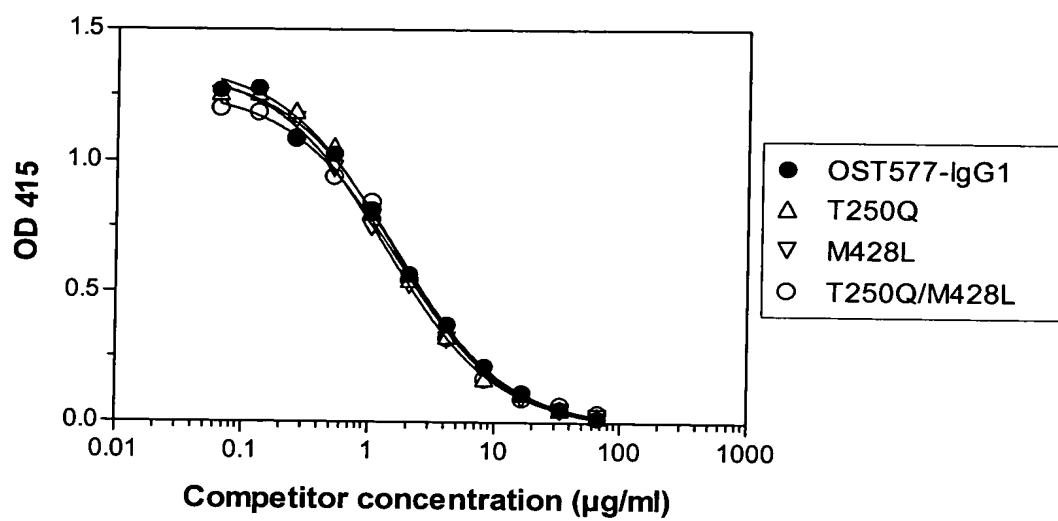


FIG. 16B

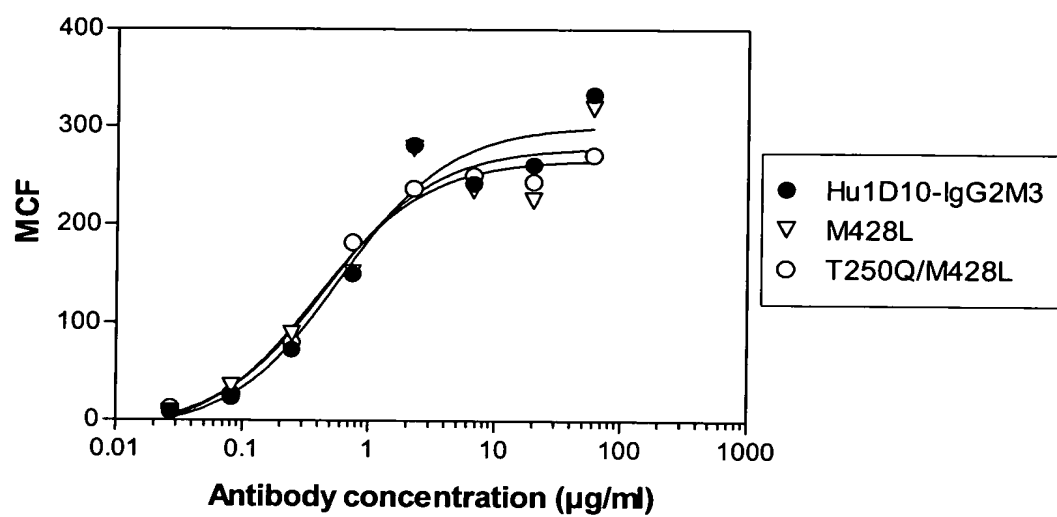


FIG. 17A

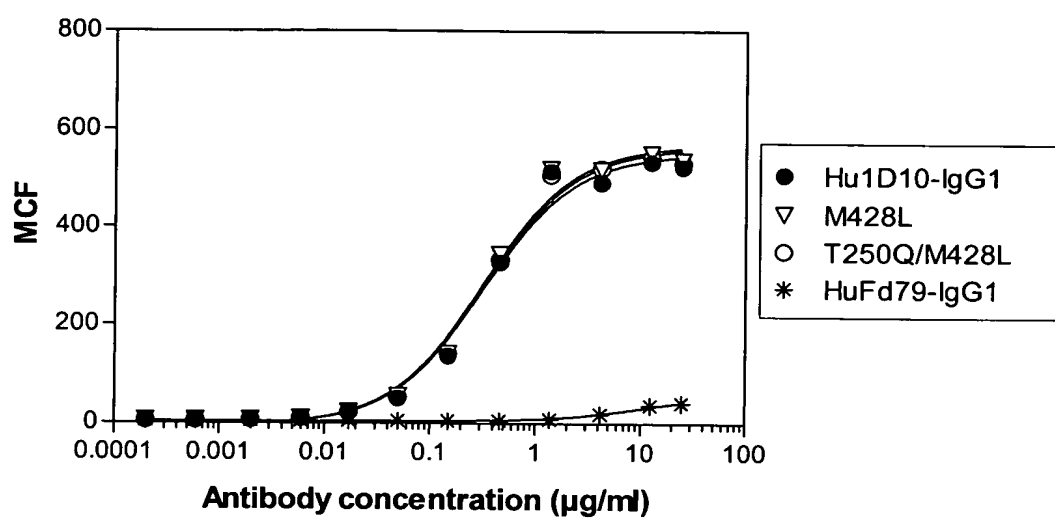


FIG. 17B

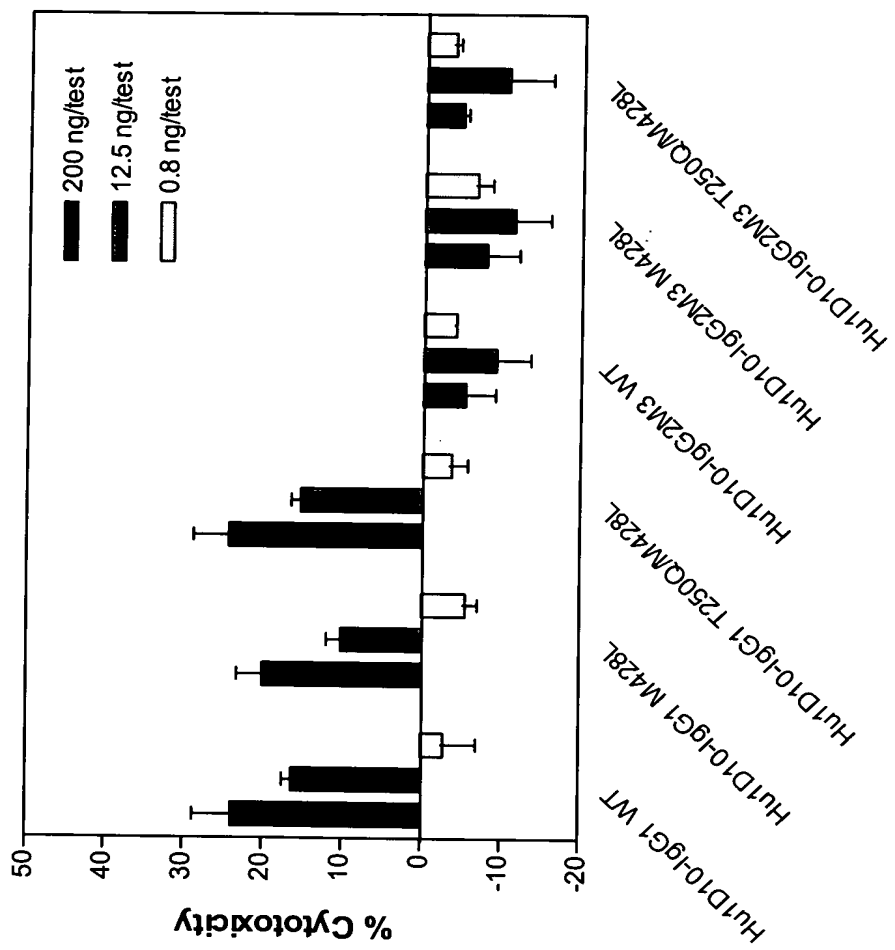


FIG. 18A

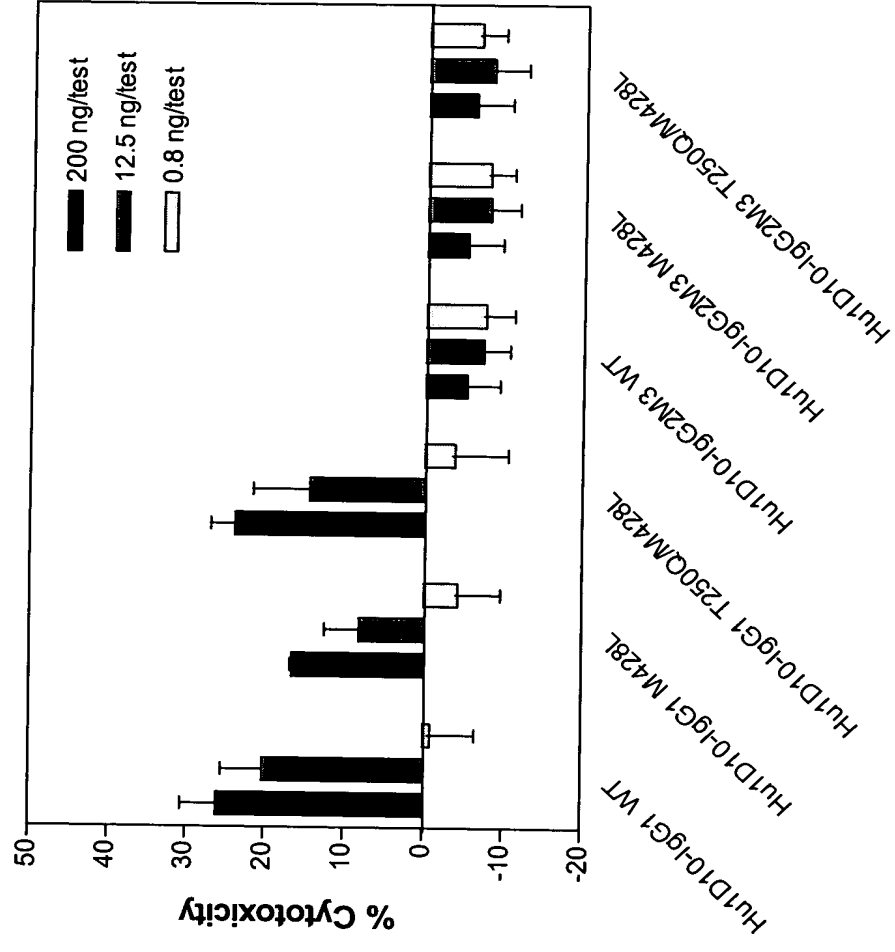


FIG. 18B

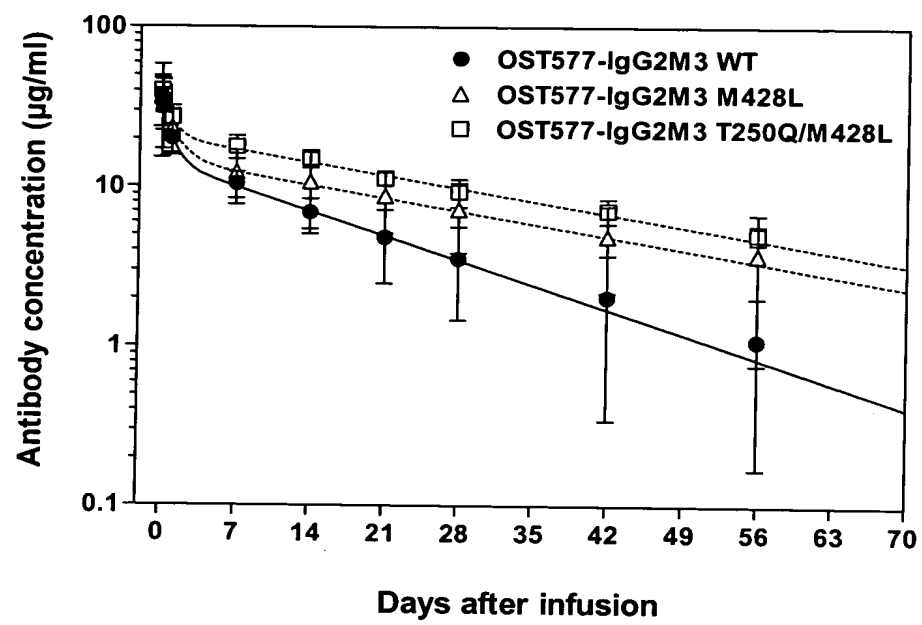


FIG. 19